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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/019,190

03/13/2002

Shigeki Kanbara

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7590

02/17/2005

Tyco Electronic Corporation
Intellectual Property Law Department
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EXAMINER

NGUYEN, KIMNHUNG T

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/019,190

Applicant(s)

KANBARA ET AL.

Examiner

Kimnhung Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

This Application has been examined. The claims 1-14 are pending. The examination results are as following.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Knowles (US 5,573,077).

Regarding claim 1, Knowles discloses in figure 3, an acoustic contact detecting device (16) comprising a substrate (10) having a top surface; an acoustic wave transducer (14) for coupling with a first wave (see shear wave 12) representative of a bulk wave being propagated through said substrate along an axis crossing said top surface (see column 6, lines 51-54); a planar wiring (see wiring connection of two transducers) for supplying said acoustic wave transducer (see column 7, lines 31-33) with an inherent electric power; a connecting device (see interconnect 340, figure 22, for connecting said acoustic wave transducer with the planar wiring (see column 18, lines 6-31); a diffractive acoustic wave mode coupler having a mode of converted wave having high energy (see figure 1D, column 2, lines 51-60) on said top surface and functioning for coupling a second wave(see shear wave 324) being propagated along an axis parallel to said top surface with said first wave (see figure 21, column 17, lines 47-52); a means

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for detecting (28) a perturbation in the energy of said second wave (see fig. 21-25, see col. 17, lines 18-30).

Regarding claim 2, Knowles discloses in figure 2A and 3, a coordinate input device of touch-type comprising: a propagation medium having a top surface capable of propagating an acoustic wave (see column 6, lines 45-50); a bulk wave generation means (12) for propagating a bulk wave in a crossing direction with respect to said top surface of said propagation medium; a planar wiring for supplying this bulk wave generation means (see column 7, lines 31-33 with an inherent electric power; a connecting device for providing an electrical connection between said bulk wave generation means and said planar wiring (see column 18, lines 6-31); an acoustic wave generation means for converting said bulk wave into an acoustic wave and propagating said acoustic wave on the top surface of said propagation medium; and a detecting means (see touch panel or touch position sensor) for detecting a scatter in the surface of the acoustic wave from said acoustic wave generation means.

Regarding claim 3, Knowles discloses an acoustic wave transducer is composed of a piezoelectric vibrator (see column 6, lines 51-57).

Regarding claim 4, Knowles discloses the wiring is formed by using conductive paste (see metalized formed conductive epoxy (see column 17, lines 66-67, and column 18, lines 1-31)

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Regarding claims 5-6, Knowles discloses an inherent the wiring is formed by way of transfer printing, and formed on back surface of the substrate (because the wiring always formed on printed circuit board, which is formed on back of the substrate)

Regarding claim 7, Knowles discloses the connecting device is made of conductive material having a step corresponding to a profile of said acoustic wave transducer (see column 17, lines 66-67, and column 18, lines 1-31).

Regarding claim 8, Knowles discloses said acoustic wave transducer comprises a piezoelectric substrate (10, figure 2A) and a piezoelectric vibrator (14) having electrode sections disposed on both surfaces of said piezoelectric substrate, and said planar wiring (figures 21-23) comprises a first wiring section (346) capable of contacting with one of said electrode sections of said piezoelectric vibrator by way of line, wherein said connecting device is formed in a form capable of connecting the other electrode section of said piezoelectric vibrator with said second wiring section (348, see column 18, lines 6-31).

Regarding claim 9, Knowles discloses in fig. 3 a substrate for an acoustic detecting device (see touch panel or touch sensor) having a top surface, said substrate further comprising an acoustic wave transducer (18, 20, 22, 24) coupled with a bulk wave having a propagation axis crossing said top surface in the substrate; a wiring (see conductive frit, see col. 7, lines 23-32) for supplying said acoustic wave transducer with electric power, said wiring being printed on a back surface of said substrate; a connecting device for connecting said acoustic wave transducer with

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said wiring (see col. 7, lines 32-33); a diffractive acoustic wave mode coupling structure formed in the proximity to said surface for converting acoustic energy of the bulk wave into a wave to be propagated along an axis parallel to said top surface; and a means for detecting the converted acoustic wave energy corresponding to a position of a perturbation event (see col. 8, col. 9, lines 1-16).

Regarding claim 10, Knowles disclose in figure 21-25, a touch input device (370) comprising a substrate (318) having a first planar surface (see first wiring section 346) and a second planar surface (see second wiring section 348, fig. 22), an acoustic wave transducer (322) for generating acoustic wave, the acoustic wave transducer coupled to the second planar surface such that generated acoustic waves are transmitted to the first planar surface; planar wiring applied to the second planar surface; and means for connecting (see copper trace 344) the planar wiring to the acoustic wave transducer(see col. 18, lines 6-31).

Regarding claims 11-13, Knowles discloses that wherein the means for connecting the planar wiring to the acoustic wave transducer may comprise a discrete connector (344) and composite conductive material (see col. 18, lines copper trace 44, see col. 18, lines 15-16) and an inherent applied by transfer printing.

Regarding claim 14, Knowles discloses in figures 21-25, that a touch input further comprising a linear array of acoustically reflective elements on the first planar surface and wherein the planar wiring resides on a portion of the second planar surface substantially opposite to the linear array of acoustically reflective elements (see col. 17, lines 18-30).

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Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimnhung Nguyen whose telephone number is 703-308-0425.

The examiner can normally be reached on MON-FRI, FROM 8:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (703) 308-6725. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kimnhung Nguyen
February 14, 2005



**ALEXANDER EISEN
PRIMARY EXAMINER
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